

# GINGER V1.0A

Runoffgroove's Ampeg SB-12 Portaflex emulation

## OVERVIEW

All credit for the circuit goes to <http://runoffgroove.com>. You will also find a lot of [sound samples](#) and [documentation](#) on their website.

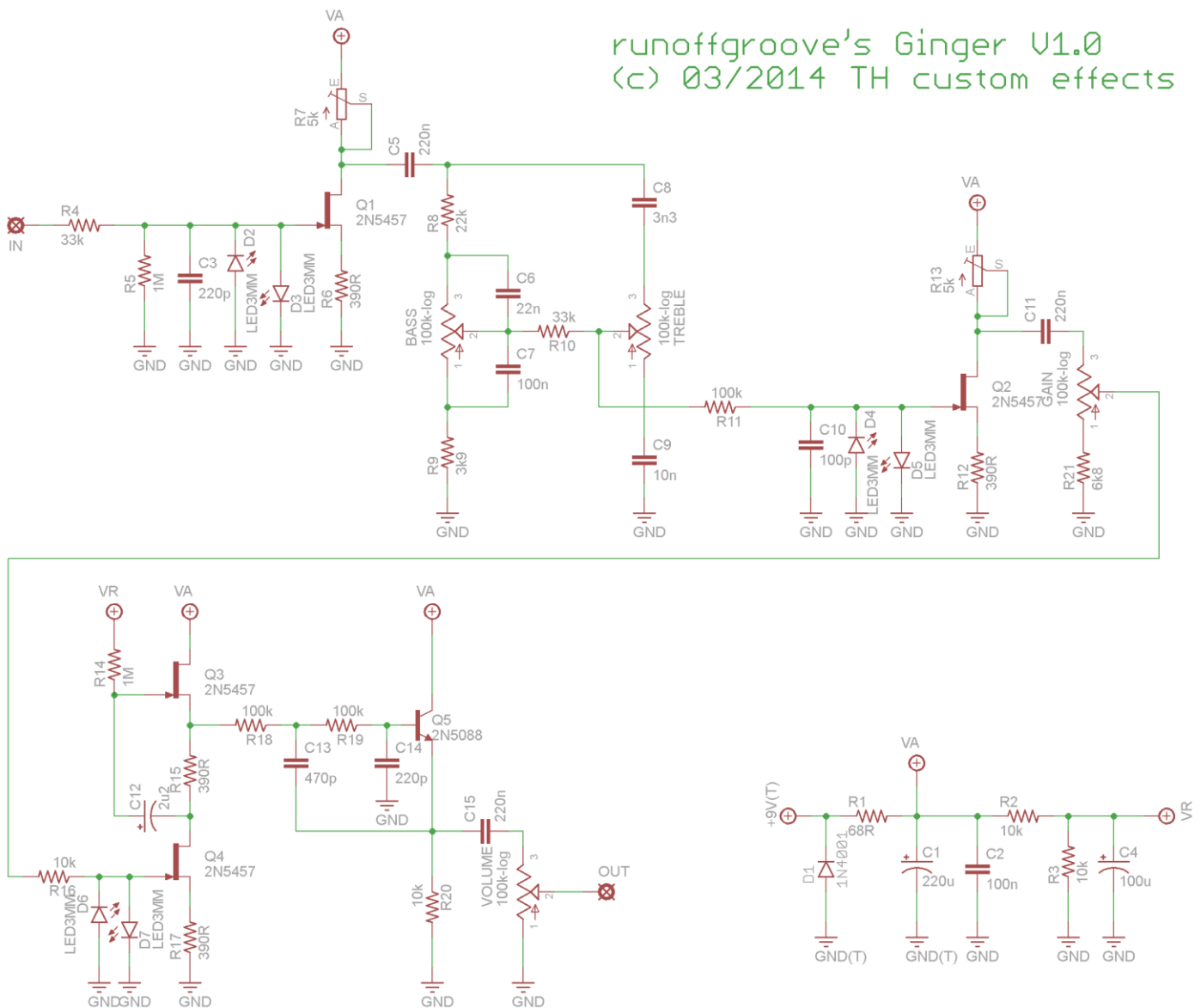
This is a great emulation of an Ampeg SB-12 Portaflex. Ideal for bass players which want to sound alike. I also found it working great for drop tuned guitar. The Baxandall tone control allows great tonal flexibility!

## GENERAL

This is my attempt on an easy-to-use PCB for this great sounding circuit – not only for bass players.

## SCHEMATIC

runoffgroove's Ginger V1.0  
(c) 03/2014 TH custom effects



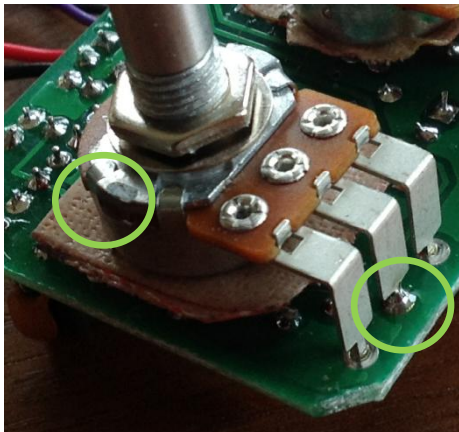
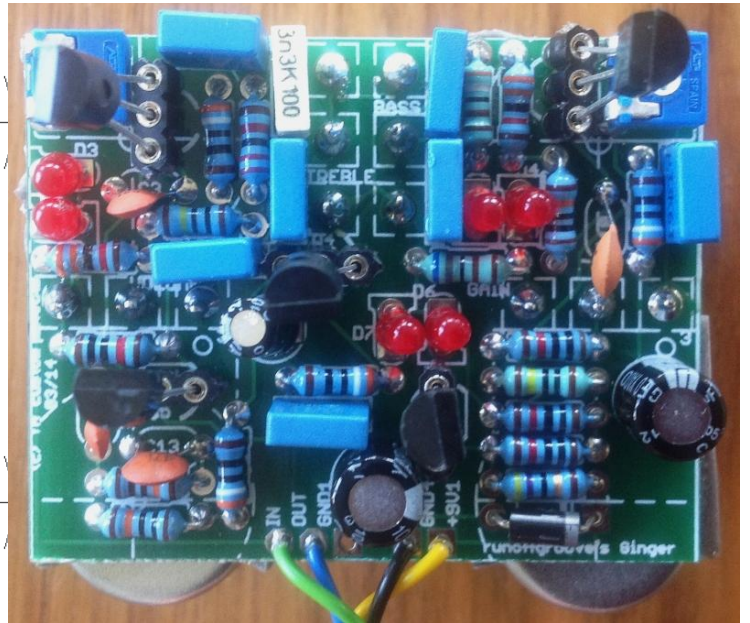
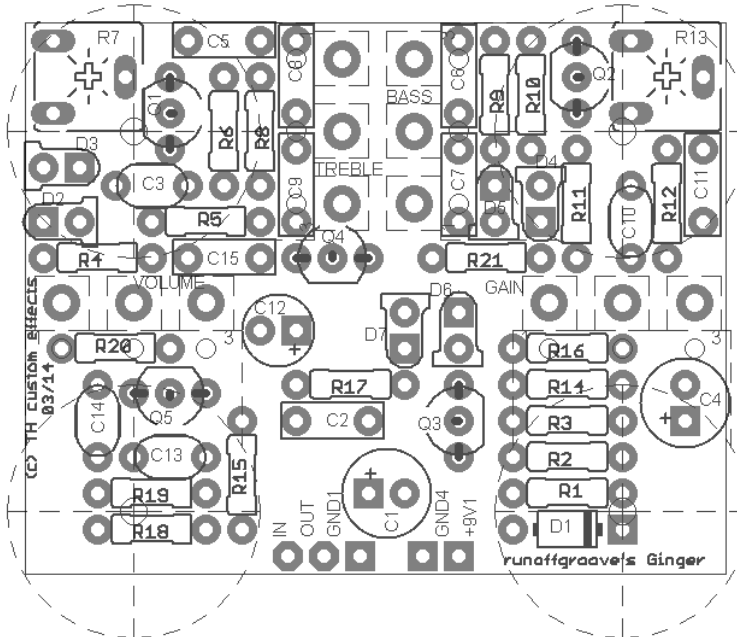
## BILL OF MATERIALS

	<i>Device#</i>	<i>Qty</i>	<i>Value</i>	<i>Comment</i>	
<b>Resistors</b>	R1	1	68R		
	R2, R3, R16, R20	4	10k		
	R4, R10	2	33k		
	R5, R14	2	1M		
	R6, R12, R15, R17	4	390R		
	R8	1	22k		
	R9	1	3k9		
	R11, R18, R19	3	100k		
	R21	1	6k8		
	<b>Capacitors</b>	C1	1	220u	polarized electro
C2, C7		2	100n	box film	
C3, C14		2	220p	box film	
C4		1	100u	polarized electro	
C5, C11, C15		3	220n	box film	
C6		1	22n	box film	
C8		1	3n3	box film	
C9		1	10n	box film	
C10		1	100p	ceram	
C12		1	2u2	polarized electro	
C13		1	470p	ceram	
<b>Diodes</b>		D1	1	1N4001	
		D2-D7*	6	LED 3mm red	
	D6,D7*	2	1N5818		
<b>Transistors</b>	Q1-Q4	4	2N5457		
	Q5	1	2N5088		
<b>Trimmer</b>	R7, R13	2	10k	6mm ACP or Piher (5x5 footprint)	
<b>Pots</b>	BASS, TREBLE, GAIN, VOLUME	4	100k-log	16mm right-angle print	

\* The original circuit features 1N5818 diodes for D6/D7. You can mount them standing if you like. I have fun listening to it with the same red LEDs in this place.

## BUILDING

Start populating the diode and resistors first. You want to socket the transistors. Put the sockets and the IC sockets in next. Then go the trimmings and LEDs. Last are ceramic and film box capacitors, then the electrolytic.



The board mounted pots need to go onto the other side of the board. Use some (double-sided) tape to make sure the pot cases do not shorten any pins that come through the board. As you solder them it is good practice to apply some solder to the middle pin first, then pull it back or approx. 1mm and let it harden. Then solder the other pins. This will align the pot horizontally in a better way and avoid shortcuts of the wide pot pins and the board.

Don't forget to clip of the small bracket before you mount the circuit.

## BIASING

The JFETs in this circuit need to be biased correctly to give the best sounding experience.

During the prototype build I found that it works fine by ear. Just start with the trimmers in the middle position and find the loudest setting without causing distortion. Start with R7.

## ENCLOSURE

A drill template (decal) can be downloaded from my site: <http://diy.thcustom.com/drill-templates/>

Finally it could look like this:



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